

WHAT IS CLAIMED IS:

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1. A urethane (meth)acrylate oligomer obtainable by reacting a polyol component (A) comprising a polyoxyalkylene polyol which has from 2 to 4 hydroxyl groups, a hydroxyl value V_{OH} (mgKOH/g) of from 5 to 115 and a total degree of unsaturation V_{US} (meq/g) satisfying the formula 1, with a polyisocyanate compound (B) and a hydroxylated (meth)acrylate compound (C):

$$V_{US} \leq (0.45/V_{OH}) + 0.02 \quad \text{Formula 1}$$

2. The oligomer according to Claim 1, wherein the polyoxyalkylene polyol is a polyoxyalkylene polyol obtainable by reacting an alkylene oxide to an initiator by means of a double metal cyanide complex as a catalyst.

3. A process for producing a urethane (meth)acrylate oligomer, which comprises reacting a polyol component (A) comprising a polyoxyalkylene polyol which has from 2 to 4 hydroxyl groups, a hydroxyl value V_{OH} (mgKOH/g) of from 5 to 115 and a total degree of unsaturation V_{US} (meq/g) satisfying the formula 1, with a polyisocyanate compound (B) and a hydroxylated (meth)acrylate compound (C):

$$V_{US} \leq (0.45/V_{OH}) + 0.02 \quad \text{Formula 1}$$

4. The process for producing the oligomer according to Claim 3, wherein the polyol component (A) and the polyisocyanate compound (B) are reacted under such a condition that the isocyanate group is stoichiometrically excessive, and then, the obtained reaction product is reacted with the hydroxylated (meth)acrylate compound (C).

5. A photo-curable composition comprising the oligomer as defined in Claim 1 and a photo-polymerization initiator.

Adopted